

Algebra Test Review

Name _____

Add or subtract the following polynomials. Put your answers in standard form (descending order).

32. $(-4x^2 + x - 3) + (-2x^3 - 5x^2 + 6)$

$$\begin{array}{r} -2x^3 - 5x^2 + 0x + 6 \\ -4x^2 + x - 3 \\ \hline -2x^3 - 9x^2 + x + 3 \end{array}$$

33. $(2m - 5m^3 + 3m^5) - (m^3 - 4m^5 - 1)$

$$\begin{array}{r} 2m - 5m^3 + 3m^5 - m^3 + 4m^5 + 1 \\ \hline 7m^5 - 6m^3 + 2m + 1 \end{array}$$

Multiply the following polynomials. Combine all like terms.

34. $-3x(2x^3 - 5x^2 + 2x - 4)$

$$-6x^4 + 15x^3 - 6x^2 + 12x$$

35. $(3y - 2)(y + 4)$

$$\begin{array}{r} 3y^2 + 12y - 2y - 8 \\ \hline 3y^2 + 10y - 8 \end{array}$$

36. $(x + 3)(4x^2 + 2x - 1)$

$$\begin{array}{r} x(4x^2 + 2x - 1) + 3(4x^2 + 2x - 1) \\ 4x^3 + 2x^2 - x + 12x^2 + 6x - 3 \\ \hline 4x^3 + 14x^2 + 5x - 3 \end{array}$$

37. $(y + 2)(y - 2)$

$$\begin{array}{r} y^2 - 2y + 2y - 4 \\ \hline y^2 - 4 \end{array}$$

38. $(y + 3)^2$

$$\begin{array}{r} (y + 3)(y + 3) \\ y^2 + 3y + 3y + 9 \\ \hline y^2 + 6y + 9 \end{array}$$

39. $(3y - 2)^2$

$$\begin{array}{r} (3y - 2)(3y - 2) \\ 9y^2 - 6y - 6y + 4 \\ \hline 9y^2 - 12y + 4 \end{array}$$

Tell whether the statement is TRUE or FALSE. CIRCLE the CORRECT RESPONSE.

40. $(3x - 2)(3x + 2) = 9x^2 - 4$

TRUE

FALSE

41. $(4x + 1)^2 = 16x^2 + 1$ $(4x + 1)(4x + 1)$

TRUE

FALSE

Multiple Choice – Select the best answer choice for each question.

42. The degree of the polynomial

$$3x^4 - 4x + 6x^5 + 2$$
 is:

A. 8

B. 4

C. 5

D. 1

43. Find $5y^3 - y^4 - 8y^5 - (2y^4 - 4y^3 + 8)$

$$5y^3 - y^4 - 8y^5 - 2y^4 + 4y^3 - 8$$

A. $9y^3 - 3y^4 - 8y^5 - 8$

B. $3y^3 - 9y^5 - 8$

C. $9y^3 - 9y^5 + 8$

D. $3y^3 + y^4 - 9y^5 + 8$

44. Find $(3a - 2)(1 - 5a)$. $3a - 15a^2 - 2 + 10a$

A. $15a - 15a^2 - 2$

B. $13a - 15a^2 - 2$

C. $-15a^2 - 2$

D. $8a - 2$

45. Find $(3b - 2)^2$. $(3b - 2)(3b - 2)$

A. $9b^2 - 6b + 4$

B. $9b^2 + 4$

C. $9b^2 - 12b + 4$

D. $9b^2 - 4$

46. Write the polynomial in standard form:

$3x^2 - 4x + x^4 - 6$

A. $x^4 + 3x^2 - 4x - 6$

B. $-6 + 4x - 3x^2 - x^4$

C. $x^4 - 3x^2 + 4x - 6$

D. $-6 - 4x + 3x^2 + x^4$

47. Multiply: $(a + 1)(a - 5)$

A. $a^2 - 4a - 5$

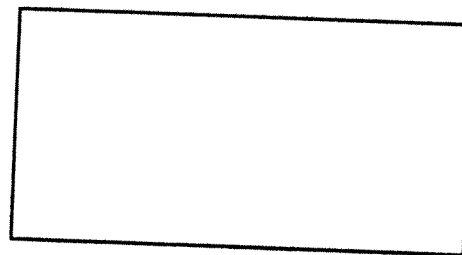
B. $a^2 - 5a + 5$

C. $a^2 + 4a - 5$

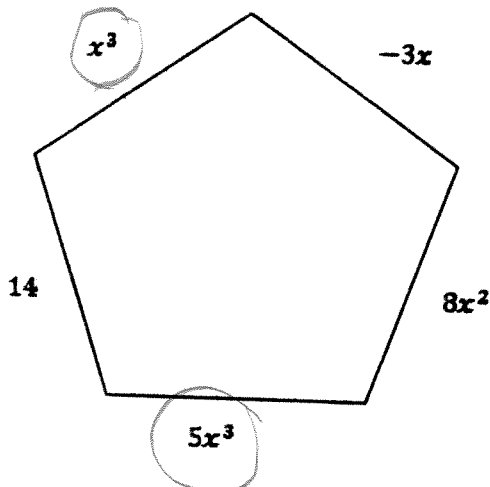
D. $a^2 - 5a - 5$

48. Find the area of the rectangle:

$(4x - 3)(2x + 7)$
 $8x^2 + 28x - 6x - 21$
 $8x^2 + 22x - 21$



49. Write an expression for the perimeter of the figure:



$6x^3 + 8x^2 - 3x + 14$